

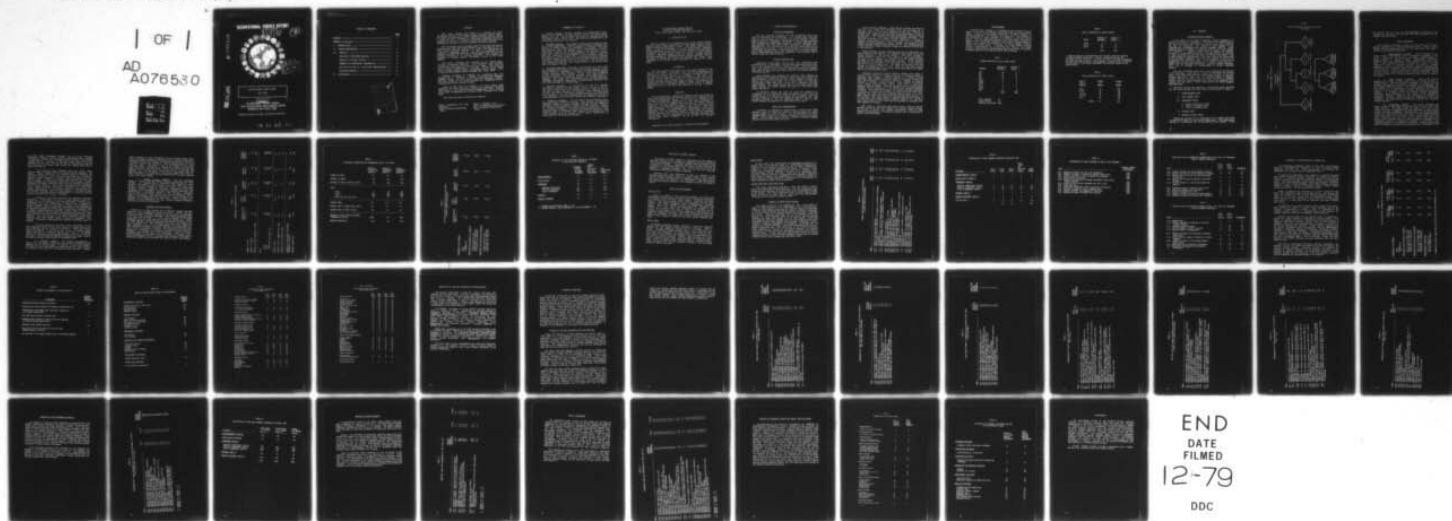
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AIR FORCE OCCUPATIONAL MEASUREMENT CENTER RANDOLPH AFB TX F/6 5/9  
PHYSICAL THERAPY CAREER LADDER AFSC 913X0.(U)  
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# OCCUPATIONAL SURVEY REPORT

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6 PHYSICAL THERAPY CAREER LADDER

AFSC 913X0

AFPT 90-913-382

11 SEP 1979

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OCCUPATIONAL SURVEY BRANCH  
USAF OCCUPATIONAL MEASUREMENT CENTER  
RANDOLPH AFB TEXAS 78148

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## PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Physical Therapy Specialty (AFSCs 913X0). The project was directed by USAF Program Technical Training, Volume 2, dated July 1979. Authority for conducting occupational surveys is contained in AFR 35-2. Computer outputs from which this report was produced are available for use by operating and training officials.

The occupational survey program within the Air Force has been in existence since 1956 when initial research was undertaken by the Air Force Human Resources Laboratory to develop the methodology for conducting occupational surveys. By 1967, an operational survey program was established within Air Training Command and surveys were produced annually on 12 enlisted specialties. The program was expanded to annually produce occupational surveys on 51 career ladders.

The survey instrument was developed by Mr. Robert Alton, Inventory Development Specialist. First Lieutenant Linda Wiekhorst analyzed the survey data and wrote the final report. This report has been reviewed and approved by Lt Col Jimmy L. Mitchell, Chief, Airman Career Ladders Analysis Section, Occupational Survey Branch, USAF Occupational Measurement Center, Randolph AFB, Texas, 78148.

Computer programs for analyzing the occupational data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Copies of this report are available to air staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Randolph AFB, Texas 78148.

This report has been reviewed and is approved.

BILLY C. McMASTER, Col, USAF  
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## SUMMARY OF RESULTS

1. Survey Coverage: Inventory booklets were administered to personnel in the Physical Therapy specialty during the period March through May 1979. Survey results are based on responses from 194 respondents holding DAFSC 913X0. This represents 86 percent of the 219 assigned personnel in this specialty.
2. Specialty Structure: The primary functions of the 913X0 specialty are to take measurements, administer physical therapy treatments, and prepare or instruct patients for treatments or exercises. The major jobs identified within the specialty were Superintendents, NCOICs, Journeymen, Trainees, and Athletic Trainers. As reflected in the job group titles, these groups are distinguished by the amount of management and supervisory responsibilities of the incumbents versus the performance of technical tasks. The Journeyman job group composed the largest segment of the specialty and was distinguished not only by supervisory responsibilities, but also job location. Overall this is a very homogeneous specialty with a high degree of task overlap found among the major job groups.
3. Specialty Progression: Generally, jobs performed by 3- and 5-skill level personnel were technical in nature, with a heavy emphasis on preparing patients or equipment for treatment and administering physical therapy treatments using modalities. At the 7-skill level, incumbents perform supervisory and training functions, while administering or instructing patients in therapeutic exercises also becomes more predominate. The 9-skill level respondents were all Superintendents, performing management, supervisory, or administrative functions, with very little time spent on technical tasks.
4. Specialty Documents: An analysis of the AFR 39-1 Specialty Descriptions, Specialty Training Standard (STS), and Plan of Instruction (POI) indicated that each document provided a good overview of the jobs and skills required in the specialty. Some refinement of the AFR 39-1 and STS for clarification purposes may aid in the description of the specialty. The very comprehensive POI referenced to all but 26 tasks performed by over 30 percent of the first enlistment respondents.
5. Analysis of Equipment: Over 80 items of physical therapy equipment were listed in the job inventory. The diversity and amount of equipment utilized by Physical Therapy Personnel seriously complicates the issue of which equipment is required for initial training. Overall, the equipment available at the technical school is utilized by a majority of the specialty incumbents, especially first enlistment personnel. Some additional items of equipment could possibly be introduced into the initial training course to provide a more complete familiarization of requirements in the working environment.

OCCUPATIONAL SURVEY REPORT  
PHYSICAL THERAPY SPECIALTY  
(AFSCs 91330, 91350, 91370, AND CEM CODE 91300)

I. INTRODUCTION

This is a report of an occupational survey of the Physical Therapy specialty (AFSC 913X0) completed by the Occupational Survey Branch, USAF Occupational Measurement Center. The primary mission of personnel in the 913X0 specialty is to take measurements, administer various treatments, and prepare or instruct patients in the performance of exercises or procedures prescribed by a doctor or certified physical therapist. Personnel usually enter the Physical Therapy specialty through attending the 3ABR91330 Physical Therapy Specialist Course at the School of Health Care Sciences at Sheppard AFB, Texas. Upon completion of the 8-week course, graduates are awarded the 3-skill level.

Background

This career ladder was created as an Air Force specialty in July 1954 as AFSC 902X4. In December 1965, its numeral designation was changed to the present 913X0 AFSC. A previous occupational survey of the Physical Therapy specialty was published in June 1975. The previous survey instrument, USAF Job Inventory AFPT 90-913-175, consisted of 444 tasks grouped under 13 duty sections and a background information section of 167 history variables. The inventory was administered to 186 respondents holding a 913X0 DAFSC or approximately 80 percent of the total 913X0 manning at the time of administration.

Objectives

The current project, completed in September 1979, was initiated to update the Consolidated Task Inventory Bank (CTIB) developed by the Occupational Measurement Center. At the request of training personnel, the inventory was administered to career ladder incumbents to obtain data on what equipment was being used by Physical Therapy personnel. This data would be used to help tech school personnel better manage the training requirements of the specialty. Major areas addressed include: (1) development and administration of the survey instrument; (2) the specialty structure found within the Physical Therapy specialty and how this relates to skill level and experience level groups; and (3) comparisons of the specialty structure with current career ladder documents, such as the AFR 39-1 Specialty Descriptions.

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## II. SURVEY METHODOLOGY

### Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-913-382. As a starting point, the tasks from the 1974 inventory were reviewed and revised through a comprehensive research of publications and directives, and through interviews with training and classification personnel. Personal interviews were also conducted with nine subject matter specialists at Sheppard AFB, Randolph AFB, and Lackland AFB to review the tentative task list for completeness and accuracy. This process resulted in a final inventory of 443 tasks grouped under 14 duty headings and a background section that included information about the respondents, such as grade, time in service, duty title, and job interest.

### Survey Administration

During the period March through May 1979, consolidated base personnel offices in operational units worldwide administered the inventory to job incumbents holding a DAFSC of 913X0. These job incumbents were selected from a computer generated mailing list obtained from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL).

Each individual who completed the inventory first completed an identification and biographical information section and then checked each task performed in their current job. After checking all tasks performed, each member then rated each of these tasks on a nine-point scale showing relative time spent on that task as compared to all other tasks checked. The ratings ranged from one (very small amount time spent) through five (about average time spent) to nine (very large amount time spent).

To determine relative time spent for each task checked by a respondent, all an incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task is then divided by the total task ratings and multiplied by 100. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

### Task Factor Administration

In addition to completing the job inventory, selected senior 913X0 personnel were also asked to complete a second booklet for either training emphasis or task difficulty. The task difficulty and training emphasis rating booklets are processed separately from the job inventories. These ratings may be used in a number of different analyses discussed in more detail within the report.



Each individual completing a task difficulty booklet was asked to rate all of the tasks on a nine-point scale from extremely low to extremely high as to the relative difficulty of that task. Difficulty is defined as the length of time it requires an average member to learn to do that task. Task difficulty data were independently collected from 46 experienced 7- or 9-skill level personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) of .93 for these 913X0 raters is considered useable by normal reliability criterion. Ratings were adjusted so that tasks of average difficulty have ratings of 5.00. The resulting data is a rank ordering of tasks indicating a degree of difficulty for each task in the inventory.

After computing the task difficulty index for each task item, it is then possible to also compute a Job Difficulty Index (JDI) for the job groups identified in the survey analysis. This index provides a relative measure of which jobs, when compared to other jobs identified, are more or less difficult. An equation using the number of tasks performed and the average difficulty per unit time as variable is the basis for the JDI index. The index ranges from 1 for very easy jobs to 25 for very difficult jobs. The indices are adjusted so that the average job difficulty index is 13.00. Thus, the more time a group spends on difficult tasks, and the more tasks they perform, the higher will be their job difficulty index.

Individuals completing training emphasis booklets were asked to rate all of the tasks on a ten-point scale from no training required to extremely heavy training. Training emphasis is a rating of tasks indicating where emphasis should be placed on structured training for first term personnel. Structured training is defined as training provided at resident technical schools. Field Training Detachments (FTD), Mobile Training Teams (MTT), formal OJT, or any other organized training method. Training emphasis data was independently collected from 45 experienced 7- or 9-skill level personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) for these raters was high (.95), indicating that there was good agreement among raters as to which tasks required some form of structured training and which did not. In this specialty, tasks rated highest in training emphasis have ratings of 6.4 and above; the average training emphasis rating is 3.7; and those tasks with ratings of 2.0 or below can be considered as requiring very little emphasis in training.

When used in conjunction with other factors, such as percent members performing, the task difficulty and training emphasis ratings can provide an insight into training requirements. This may help validate the lengthening or shortening of specific units of instruction in various training programs.

### Survey Sample

Personnel were selected to participate in this survey so as to insure an accurate representation across MAJCOM and DAFSC groups. Table 1 reflects the percentage distribution, by major command, of assigned personnel in the specialty as of April 1979. Also reflected is the distribution by major command, of incumbents in the final survey sample. The 194 respondents making up the final sample represent 86 percent of the 219 members assigned to the Physical Therapy specialty. Tables 2 and 3 reflect the distribution of the survey sample in terms of DAFSC and TAFMS groups. Generally, the survey sample provides adequate representation of all MAJCOMs and DAFSCs, and should provide a sound basis for distinguishing various job groups or specialty utilization patterns, and analyzing career field documents.

TABLE 1

#### COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
TAC	18	17
SAC	16	17
ATC	15	15
MAC	12	11
AFSC	9	9
USAFE	9	9
USAFA	7	7
AFLC	6	6
PACAF	4	5
ADCOM	2	2
AAC	2	2
	<u>100%</u>	<u>100%</u>

TOTAL ASSIGNED: 219  
TOTAL SAMPLED: 194  
PERCENT OF ASSIGNED: 86%



TABLE 2

## DAFSC DISTRIBUTION OF SURVEY SAMPLE\*

<u>DAFSC</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
91330	6	4
91350	49	35
91370	<u>45</u>	<u>41</u>
	100%	100%

\* PHYSICAL MEDICINE SUPERINTENDENTS AND MANAGERS SUPERVISE PERSONNEL IN THREE DIFFERENT SPECIALTIES. SPECIFIC AUTHORIZATIONS ARE NOT AVAILABLE FOR EACH SPECIALTY. CEM CODE 91300 AND 91392 DAFSC RESPONDENTS WHO INDICATED SUPERVISION OF 913X0 PERSONNEL (A CONDITION FOR ELIGIBILITY TO PARTICIPATE IN THE SURVEY) REPRESENTS LESS THAN ONE PERCENT OF THE SURVEY SAMPLE.

TABLE 3

## TAFMS DISTRIBUTION OF SURVEY SAMPLE

<u>MONTHS TIME IN SERVICE</u>	<u>NUMBER IN SAMPLE</u>	<u>PERCENT OF SAMPLE</u>
1-48	47	24%
49-96	53	27%
97-144	33	17%
145-192	28	14%
193-240	21	11%
241+	<u>12</u>	<u>7%</u>
TOTALS	194	100%

### III. RESULTS

#### Specialty Structure Analysis

A key aspect of the USAF occupational analysis program is to examine the structure of specialties -- what people are actually doing in the work environment rather than how official career field documents say they are organized. This analysis is made possible by the Comprehensive Occupational Data Analysis Programs (CODAP). These programs generate a number of statistical products used in the analysis of a specialty. A primary product used to analyze the specialty structure is a hierarchical clustering of all jobs based on the similarity of tasks performed and the time spent performing these tasks. This process permits the identification of the major types of work performed in the occupation (specialty), which are then analyzed in terms of job descriptions and background data. The information is then used to examine the accuracy and completeness of present career field documents (AFR 39-1 Specialty Descriptions, Specialty Training Standards, etc.), and to formulate an understanding of current utilization patterns.

The basic identifying group used in the hierarchical job structure is the Job Type. A job type is a group of individuals who perform many of the same tasks and who spend similar amounts of time performing these tasks. When there is a substantial degree of similarity between different job types, they are grouped together in a Cluster. Finally, there are often specialized jobs that are too dissimilar to be grouped into any cluster. These unique groups are labeled Independent Job Types.

Based on task and time similarities, the major job groups identified for the 913X0 specialty are listed below and illustrated in Figure 1.

- I. Superintendents (N=6)
- II. Clinic NCOICs (N=7)
- III. Journeyman (N=152)
  - a. Hospital Supervisors (N=43)
  - b. Hospital Journeyman (N=63)
  - c. Clinic Journeyman (N=42)
- IV. Trainees (N=7)
- V. Athletic Trainers (N=11)

Ninety-four percent of the respondents in the sample were found to perform job within the five groups listed above. The remaining six percent (11 respondents) did not meaningfully group together. These

FIGURE 1

PHYSICAL THERAPY SPECIALTY

TOTAL SAMPLE  
(N=194)

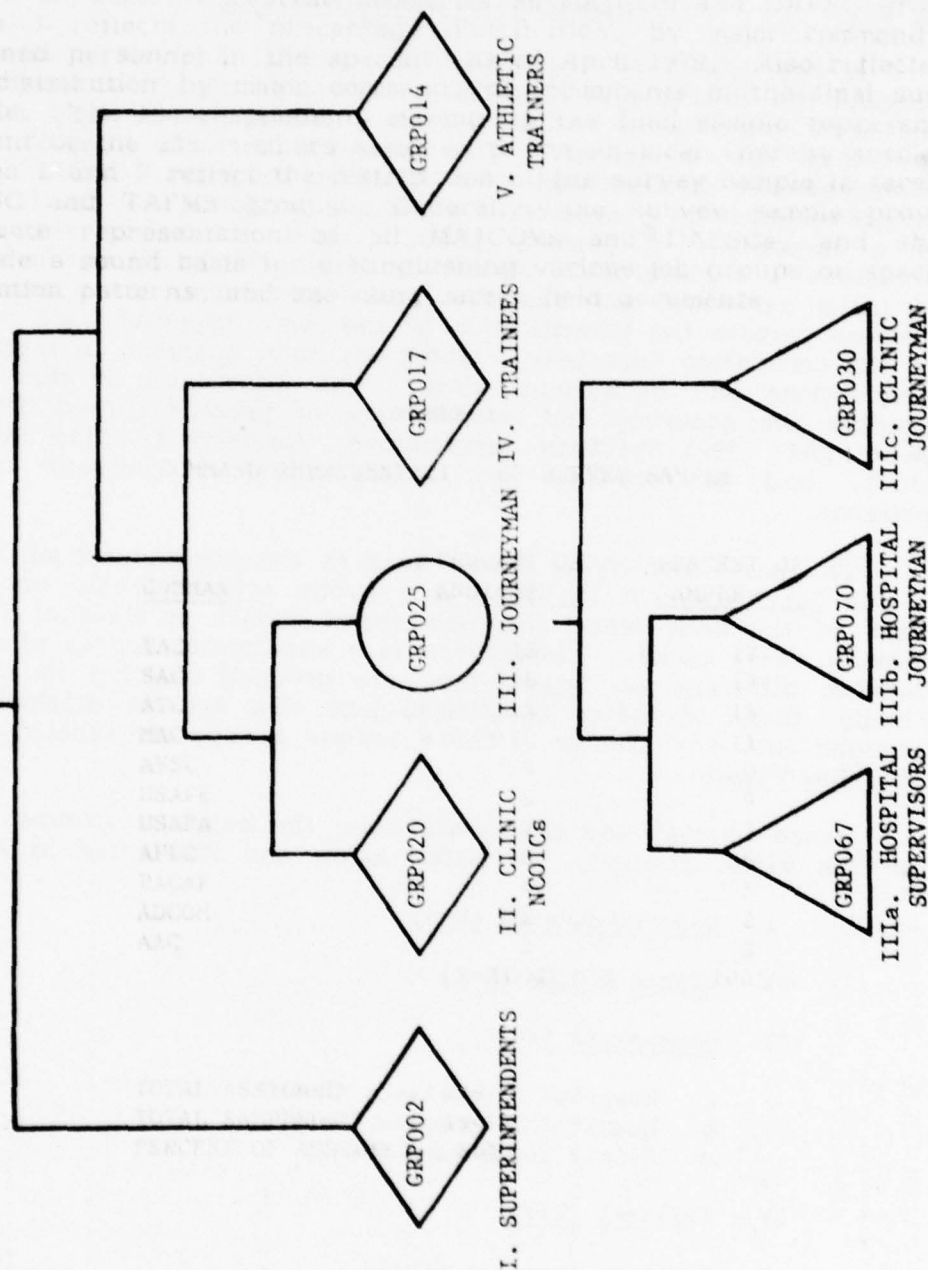


FIGURE 1

PHYSICAL THERAPY SPECIALTY STRUCTURE  
AFS 913X0

six percent did not have any distinguishable characteristics and included one instructor, two NCOICs, two athletic trainers, and six physical therapy personnel.

### Group Descriptions

The following paragraphs contain brief descriptions of the major groups constituting the Physical Therapy specialty. Tables 4 and 5 present selected background data for the job groups and Table 6 presents job satisfaction information.

I. Superintendents (GRP002). The six members of this group represent the highest level of management identified in the survey. Supervising an average of six people, Superintendents are found primarily at Medical Centers. Implementing, evaluating, planning, and other supervisory duties dominate the work of this group. Group members perform an average of 81 tasks, and these tasks have a high (5.4) average difficulty (see Table 7). Specific examples of tasks are counseling personnel, evaluating compliance with work standards, interpreting policies and directives, and participating in staff meetings. Only an average of 33 percent (two people) of the Physical Therapy Superintendents report using any equipment. Having an average grade of E-7, this group has an average of over 18 years in the service.

II. Clinic NCOICs (GRP020). These seven NCOICs supervise an average of three people, and are usually located in a clinical setting. Only four pieces of equipment are used by over 80 percent of the group (Leg Whirlpools, Goniometers, Tape Measures, and Hydrocollator Moist Heat Units). This limited usage of equipment can be explained by the performance of both supervisory and technical tasks in all of the various physical therapy functional areas by group members. As qualified 7-skill level physical therapy technicians, distinctive tasks performed by this group include determining scheduling priorities, consulting with physicians on diagnosis or treatments, reviewing clinical procedures, administering cold pack treatments, and administering or instructing patients in progressive resistive exercises.

III. Journeymen (GRP025). This cluster constitutes the largest portion of the sample (78 percent) and forms the core of the 913X0 specialty. The large number of people in the cluster (152) reflects the relative homogeneity of tasks performed by most physical therapy specialty incumbents. Although there are essentially three different job type groups within this cluster, 135 technically-orientated tasks were common to 75 percent or more of these people and these tasks account for over 60 percent of the average work time of the group. These technical tasks are related primarily to administering or instructing patients in therapeutic exercises or procedures, and preparing patients or equipment for treatment. Utilizing more diverse types of equipment than any other group identified, the equipment used



by these 913X0 respondents includes A/C or AC/DC Electrical Stimulation Equipment, Forearm Crutches, Multipointed Canes, Hausted Tractionaids, Exercise Mats, Standard Bicycle Exercisers, and Posture Training Mirrors. Personnel in this large cluster appear to be well satisfied with their jobs, with over 90 percent reporting that their job was interesting and utilized their talents and training fairly well or better (see Table 6).

The three job types identified within this cluster reflect different facets of emphasis within the Physical Therapy Specialty. For example, Hospital Supervisors are involved equally in technical and supervisory functions. These lower level supervisors may be found at hospital, regional hospitals, or medical centers performing high level technical tasks. A high (4.9) average task difficulty per unit time spent, combined with performing a high (322) average number of tasks, formulates the hospital supervisors job as the most difficult identified in the survey (see Table 7). Unique tasks performed by these incumbents center around consulting with physical therapists and various physicians, administering or instructing patients in post-operative or pre-operative programs, and instructing patients in activities of daily living. While indicating technical responsibilities, 81 percent of this job type also supervise an average of two people.

Another job type within the cluster was identified as Hospital Journeymen. These people are found in many different areas of a hospital such as Hydrotherapy Units, Medical/Surgical Treatment Units, Orthopaedic Units, and Rehabilitation Treatment Units, in addition to Physical Therapy Clinics or Departments. Specific tasks performed by group incumbents include taking body measurements, and administering or instructing patients on various types of therapeutic exercises, such as manual resistive/assistive exercises, passive range of motion or stretching exercises, and mechanical assistive/resistive exercises. This group includes 51 percent of the first enlistment personnel in the 913X0 specialty. Only nine percent of the group supervise anyone but a relatively high (243) average number of tasks are performed. This indicates a moderately experienced and somewhat diversified group of workers.

The third job type in this cluster, Clinic Journeymen, are the least experienced group in this cluster, having an average grade of E-4 and performing only an average of 164 tasks. Unlike the previous group, the members of this group tend to focus on common, simple tasks performed in a physical therapy clinic such as: scheduling patients for treatment and instructing patients in the use of crutches and canes, with an additional emphasis in administrative tasks, such as maintaining treatment record forms or consultation forms.

IV. Trainees (GRP017). Also assigned predominately to clinics, the seven people in this group are the most dissatisfied group identified in the survey sample. A majority of the group members indicated they had crosstrained from another specialty, and only have an average of two years in the Physical Therapy specialty. Common



tasks performed by this independent job type include simple tasks, such as preparing equipment, measuring joints, cleaning the work area, scheduling patients for treatment, and instructing patients in the use of crutches or proper body mechanics. With an average grade of E-4 and over five years in the service, none of the members of this group supervise anyone. Performing an average fewer tasks (116) than any other technically orientated group, with the lowest (4.5) average task difficulty per unit time spent, this group has the simplest job (job difficulty index 5.8) identified in the survey sample (see Table 7). These respondents represent the most inexperienced, and least satisfied group in the survey sample.

V. Athletic Trainers (GRP014). This very specialized group of 11 people includes primarily personnel assigned to the USAF Academy. The Academy with its extensive athletic programs is more involved with athletic related injuries than most other Air Force facilities. Specific examples of tasks they perform are administering whirlpool treatments, preparing equipment, administering cold pack treatments and ice massages, consulting with physical therapists, and administering or instructing patients in knee exercises. Equipment used by this group centers around Arm and Leg Whirlpools, Goniometers, Tape Measures, Ankle/Leg Exercisers, N-K Exercise Units, Iron Dumbbells, and Hydrocollator Moist Heat Units. Write-in comments for members of this independent job type included applying emergency strapping and taping to extremities.

#### Specialty Structure Summary

Results of the data analysis for the Physical Therapy Specialty reflected a very homogeneous specialty structure. Overall, the jobs within the Physical Therapy Specialty can be described as interrelated in terms of tasks and duties performed. While some specialization does occur within the specialty, it is clear that the majority of all 913X0 incumbents perform a wide spectrum of physical therapy tasks. Within the 913X0 specialty, Hospital Supervisors and Hospital Journeymen have the most difficult job. Job satisfaction levels for most groups was high, especially as the level of responsibility and average number of tasks performed increased, indicating a specialty with interesting work once a level of proficiency is reached. One independent job group was identified as performing the specialized function of athletic trainers. Paralleling the specialty skill level progression, upper level NCOs grouped together on the basis of their performance of common supervisory and management duties, continuing with hierarchical groupings of technically related tasks performed by various worker level groups.

TABLE 4

## BACKGROUND INFORMATION FOR JOB GROUPS

	SUPERINTENDENTS (GRP002)	CLINIC NCOICs (GRP020)	JOURNEYMEN (GRP025)	TRAINEES (GRP017)	ATHLETIC TRAINERS (GRP014)
NUMBER IN GROUP	6	7	152	7	11
PERCENT OF SAMPLE	3%	4%	78%	4%	6%
PERCENT OF GROUP LOCATED IN CONUS	100%	71%	82%	86%	100%

## DAFSC

91330	0%	0%	3%	15%	9%
91350	17%	0%	55%	71%	82%
91370	33%	100%	42%	14%	9%
91399 AND CEM CODE 91300	50%	0%	0%	0%	0%

AVERAGE GRADE	E-7	E-6, 7	E-5	E-4	E-4
AVERAGE TIME IN CAREER FIELD (MOS)	153	125	73	31	56
AVERAGE TIME IN SERVICE (MOS)	223	203	111	70	66

PERCENT OF TOTAL FIRST ENLISTMENT  
PERSONNEL IN GROUPS

NONE	NONE	79%	11%	10%
PERCENT SUPERVISING	83%	86%	NONE	28%

**TABLE 5**  
**BACKGROUND INFORMATION FOR JOURNEYMEN (GRP025) JOB TYPES**

	<u>HOSPITAL SUPERVISORS (GRP067)</u>	<u>HOSPITAL JOURNEYMEN (GRP070)</u>	<u>CLINIC JOURNEYMEN (GRP030)</u>
NUMBER IN GROUP	43	63	42
PERCENT OF SAMPLE	22%	32%	22%
PERCENT OF GROUP LOCATED IN CONUS	81%	84%	81%
<hr/>			
DAFSC			
91330	0	5%	5%
91350	14%	76%	66%
91370	86%	19%	29%
91399 AND CEM CODE 91300	0	0	0
<hr/>			
AVERAGE GRADE	E-6	E-4	E-4
AVERAGE TIME IN CAREER FIELD (MOS)	121	47	62
AVERAGE TIME IN SERVICE (MOS)	186	70	92
<hr/>			
PERCENT OF TOTAL FIRST ENLISTMENT PERSONNEL IN GROUPS	NONE	51%	28%
PERCENT SUPERVISING	81%	9%	17%

TABLE 6  
JOB SATISFACTION INFORMATION FOR JOB GROUPS  
(PERCENT MEMBERS RESPONDING)

	<u>SUPERINTENDENTS (GRP002)</u>	<u>CLINIC NCOICs (GRP020)</u>	<u>JOURNEYMEN (GRP025)</u>	<u>TRAINEES (GRP017)</u>	<u>ATHLETIC TRAINERS (GRP014)</u>
<u>EXPRESSED JOB INTEREST:</u>					
DULL	0	0	2	14	9
SO-SO	0	0	5	57	9
INTERESTING	100	100	93	29	82
<u>PERCEIVED UTILIZATION OF TALENTS:</u>					
LITTLE OR NOT AT ALL	0	0	7	43	18
FAIRLY WELL TO VERY WELL	33	29	71	57	73
EXCELLENTLY OR PERFECTLY	67	71	22	0	9
<u>PERCEIVED UTILIZATION OF TRAINING:</u>					
LITTLE OR NOT AT ALL	0	0	7	57	9
FAIRLY WELL TO VERY WELL	33	43	67	43	64
EXCELLENTLY OR PERFECTLY	67	57	26	0	27



TABLE 7

COMPARISON OF JOB DIFFICULTY INDICES BY JOB GROUPS  
IN THE SPECIALTY STRUCTURE

	<u>**AVERAGE NUMBER OF TASKS PERFORMED</u>	<u>AVERAGE TASK DIFFICULTY PER UNIT TIME SPENT</u>	<u>*JOB DIFFICULTY INDEX</u>
<u>SUPERINTENDENTS</u>	81	5.4	12.3
<u>CLINIC NCOICs</u>	179	4.8	13.1
<u>JOURNEYMEN</u>	242	4.7	14.2
HOSPITAL SUPERVISORS	322	4.9	18.5
HOSPITAL JOURNEYMEN	243	4.7	14.7
CLINIC JOURNEYMEN	164	4.6	9.5
<u>TRAINEES</u>	116	4.5	5.8
<u>ATHLETIC TRAINERS</u>	127	4.6	7.2

\* AVERAGE JOB DIFFICULTY INDEX = 13.00

\*\* AVERAGE NUMBER OF TASKS PERFORMED BY 913X0 RESPONDENTS = 216



## ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of specialty structure groups, allows for a comparison of these groups and their interrelationships. The DAFSC analysis identifies general trends or patterns in addition to examining differences in tasks performed by incumbents at the various skill levels. DAFSC data also aids in the analysis of specialty documents, such as the AFR 39-1 Specialty Descriptions and Specialty Training Standards.

Although there were differences in jobs, as reflected in the Specialty Structure section, there are a large number of tasks common to most Physical Therapy personnel, regardless of where they work or their duty AFSC (see Table 8). The distribution of skill levels across the functional groups identified in the specialty structure are shown in Table 9.

### Skill Level Descriptions

#### DAFSC 91330

Found in a variety of work areas and facilities, the 3-skill level respondents uniformly spent more time preparing patients and equipment for treatment than any other DAFSC groups. Equipment more often used by 3-skill level personnel include Contrast Baths, Exercise Mats, Hubbard (full body) Whirlpools, Hand Dynamometers, Overhead Pulleys, Patient Lifts, Shoulder Ladders and Wheels, Treadmills, and Walkers. All of the 3-skill level respondents are assigned in the CONUS and a majority have only one year in the specialty, but an average of three years in the service, indicating a high proportion of retrainees entering the specialty. Most of the representative tasks (see Table 10) performed by 3-skill level physical therapy personnel are slightly above average in difficulty and center around technical functions.

#### DAFSC 91350

Performing primarily technical functions, 5-skill level personnel indicate they also perform limited supervisory functions. Table 11 reflects the major differences between the 3- and 5-skill level personnel. Performing a higher average number of tasks than the average 3-skill level incumbent, the typical 5-skill level incumbent's technical tasks are more diverse and generally involve all major functions of the Physical Therapy specialty. Specific tasks performed by 5-skill levels in addition to the common tasks performed by all physical therapists involve maintaining and recording patient treatment history forms, consulting with certified Physical Therapists, and instructing patients in various exercises.

#### DAFSC 91370

At the 7-skill level, supervisory and management functions are a primary focus of the job (see Table 12). DAFSC 91370 incumbents are found in all of the specialty structure groups identified, concentrating primarily in the Hospital Supervisor job group. A majority of the 7-skill level respondents indicated they filled NCOIC positions, while still performing technical functions. Tasks such as determining work priorities, advising superiors on physical therapy operations, measuring joint range of motion, and administering or instructing patients in various physical therapy exercises or procedures are representative of tasks performed by DAFSC 91370 respondents.

#### DAFSC 91392 AND CEM CODE 91300

Only three respondents indicated a CEM Code 91300 or DAFSC 91392, and supervision of 913X0 personnel. The job description of this specialty group illustrates the highest supervisory level group identified in the survey. The three respondents with a DAFSC 91300 or 91392 spent 100 percent of their time on supervisory and administrative functions and are assigned to medical centers.

#### Summary of AFMS DAFSC Groups

The 913X0 specialty is very homogeneous since a large number of tasks are common from the 3- to 7-skill levels. Able to supervise personnel in three different specialties the 91392/00 indicating supervision of DAFSC 913X0 personnel was limited, making it difficult to determine an accurate picture of the Physical Medicine Superintendent or Manager skill levels. Although specialized jobs were identified within the specialty by cluster analysis, many of the general physical therapy functions and tasks were common to all of these groups. Three-skill level members used more equipment than any other skill level group and performed technical tasks slightly above average in difficulty, concentrating in preparing equipment for treatments. Performing the full spectrum of technical functions, 5-skill level respondents also took on a limited supervisory role. Over 60 percent of the 7-skill level incumbents supervise an average of two people indicating an expanded supervisory or NCOIC role, while continuing to perform a wide range of technical tasks. Overall skill level differentiation follows the normal progression found in most technical specialties ranging from performing technical tasks to more complex and supervisory tasks.

TABLE 8

COMMON CORE TASKS PERFORMED BY 913X0 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 913X0	DAFSC 91330	DAFSC 91350	DAFSC 91370
E140 SCHEDULE PATIENTS FOR TREATMENT	92	100	90	96
F145 CONSULT WITH PHYSICAL THERAPIST ON DIAGNOSIS OR PROPOSED TREATMENT OF PATIENTS	85	100	87	83
F151 DETERMINE PATIENTS' CONDITION DURING TREATMENT PROGRAM	89	86	88	92
F167 MEASURE JOINT RANGE OF MOTION USING GONIOMETERS, FLEXOMETERS, OR CERVIGONS	93	86	94	96
H180 DRAPE PATIENTS FOR TREATMENTS	92	100	93	94
H181 EXPLAIN TREATMENT PROCEDURES TO PATIENTS	95	100	98	95
H184 POSITION PATIENTS FOR TREATMENT	95	100	95	97
H191 PREPARE EQUIPMENT FOR ARM OR LEG WHIRLPOOL TREATMENTS	95	100	96	96
H206 PREPARE EQUIPMENT FOR TRACTION TREATMENTS	91	100	90	95
I218 ADMINISTER ARM OR LEG WHIRLPOOL TREATMENTS	95	100	97	96
I234 ADMINISTER MOIST HEAT TREATMENTS	89	100	90	90
J263 ADMINISTER OR INSTRUCT PATIENTS IN MANUAL ASSISTIVE EXERCISE TO SHOULDERS	88	86	88	91
J336 ADMINISTER OR INSTRUCT PATIENTS IN PROGRESSIVE RESISTIVE EXERCISES (PRE)	87	86	87	91
J347 INSTRUCT PATIENTS IN ACTIVE EXERCISE TO KNEES	95	100	95	97
J355 INSTRUCT PATIENTS IN CODMAN'S EXERCISES	90	86	90	95
K405 INSTRUCT PATIENTS IN PARTIAL-WEIGHT-BEARING CRUTCH GAITS	91	100	90	94
K420 MEASURE OR ADJUST LENGTH OF CRUTCHES	93	100	94	95

TABLE 9

## DISTRIBUTION OF DAFSC MEMBERS PERFORMING SPECIALTY JOBS

<u>JOB GROUP</u>	<u>DAFSC 91330</u>	<u>DAFSC 91350</u>	<u>DAFSC 91370</u>	<u>DAFSC 91399 AND CEM CODE 91300</u>	<u>GROUP TOTAL</u>
<u>SUPERINTENDENTS (GRP002)</u>	0	1	2	3	6
<u>CLINIC NCOICs (GRP020)</u>	0	0	7	0	7
<u>JOURNEYMEN (GRP025)</u>					
HOSPITAL SUPERVISORS (GRP067)	0	6	37	0	43
HOSPITAL JOURNEYMEN (GRP070)	3	48	12	0	63
CLINIC JOURNEYMEN (GRP030)	2	28	12	0	42
<u>TRAINEES (GRP017)</u>	1	5	1	0	7
<u>ATHLETIC TRAINERS (GRP014)</u>	1	9	1	0	11
<u>DID NOT GROUP</u>	<u>0</u>	<u>8</u>	<u>6</u>	<u>0</u>	<u>14</u>
	7	105	78	3	193



TABLE 10

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 91330 PERSONNEL

TASK	PERCENT MEMBERS PERFORMING
H201 PREPARE EQUIPMENT FOR MOIST HEAT TREATMENTS	100%
K404 INSTRUCT PATIENTS IN NON-WEIGHT-BEARING CRUTCH GAITS	100%
K407 INSTRUCT PATIENTS IN STAIR CLIMBING WITH CRUTCHES	100%
I244 APPLY ASEPTIC TECHNIQUES	100%
H208 PREPARE EQUIPMENT FOR ULTRASOUND TREATMENTS USING DIRECT CONTACT METHODS	100%
E121 MAINTAIN DAILY PATIENT TREATMENT AND VISIT COUNT	100%
M438 CLEAN WORK AREA	100%
I242 ADMINISTER ULTRASOUND WITHOUT ELECTRICAL STIMULATION	100%
K416 INSTRUCT PATIENTS IN USE OF STANDARD CANES	100%
H204 PREPARE EQUIPMENT FOR THERAPEUTIC EXERCISES	100%
H190 PREPARE EQUIPMENT FOR AMBULATION TRAINING	86%



TABLE 11

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 91330 AND 91350 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASK	DAFSC 91330 (N=7)	DAFSC 91350 (N=105)	DIFFERENCE
J338 COMPOSE HANDOUTS FOR HOME TREATMENT PROGRAMS	0	61	-61
J350 INSTRUCT PATIENTS IN ACTIVE EXERCISE TO TRUNKS	29	78	-49
E134 PREPARE REQUISITION FOR AIR FORCE EQUIPMENT OR SUPPLIES	0	43	-43
F148 CONSULT WITH PHYSIAN OR DENTIST ON PATIENTS' PROGRESS	29	70	-41
E130 PREPARE DOCUMENTS TO TURN IN EQUIPMENT FOR REPAIRS	0	40	-40
K396 INSTRUCT PATIENTS IN DRAG-TO CRUTCH GAITS	71	44	+27
I225 ADMINISTER HUBBARD TANK TREATMENTS	57	26	+31
E122 MAINTAIN DOCUMENTATION FILES	86	54	+32
J372 INSTRUCT PATIENTS IN USE OF SHOULDER WHEELS	71	38	+33
H195 PREPARE EQUIPMENT FOR HUBBARD TANK TREATMENTS	71	26	+45

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 91350 AND 91370 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASK	DAFSC 91350 (N=105)	DAFSC 91370 (N=78)	DIFFERENCE
C 78 PREPARE APRs	11	71	-60
B 32 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	15	72	-57
B 41 IMPLEMENT SAFETY PROGRAMS	7	63	-56
A 2 ASSIGN PERSONNEL TO DUTY POSITIONS	12	67	-55
C 74 EVALUATE WORK OF SUBORDINATES	15	68	-53
H207 PREPARE EQUIPMENT FOR ULTRASOUND TREATMENTS UNDER WATER	87	81	+ 6
F155 INFORM PHYSICAL THERAPIST REGARDING PATIENTS' PROGRESS	83	76	+ 7
K398 INSTRUCT PATIENTS IN FULL-WEIGHT-BEARING CRUTCH GAITS	82	74	+ 8
I231 ADMINISTER LOW BOY WHIRLPOOL TREATMENTS	53	40	+13
I241 ADMINISTER ULTRASOUND WITH ELECTRICAL STIMULATION	74	60	+14

## SUMMARY OF BACKGROUND INFORMATION

The background information section of each USAF Job Inventory gives the respondents the opportunity to report information about themselves and their job. Various background data including job satisfaction and equipment used are summarized below.

Job satisfaction information, when compared to combined data from other related specialties recently surveyed, can indicate the relative intentions or attitudes of specialty incumbents about such factors as job interest, perceived utilization of talents and training, and reenlistment intent. The comparative data sample, taken from all medical specialties surveyed in 1978, include Radiologic (AFS 903X0), Medical Laboratory (904X0), Pharmacy (905X0), Environmental Health (907X0), Mental Health Ward (914X1), and Dental Laboratory (982X0).

Table 13 compares the responses of all 913X0 respondents and those of the comparative sample by enlistment group. According to this table, job interest for the Physical Therapy specialty is uniformly higher in all enlistment groups than the comparative sample. This trend continues for other job factors, except for first job respondents where there is a slight decline in the perceived utilization of talents and training.

An additional area in the background section of the survey instrument detailed the methods by which 913X0 incumbents entered the specialty. Interestingly, as shown in Table 14, completion of the resident technical training or retraining from another specialty are equally utilized for entry into the Physical Therapy Specialty.

Physical Therapy personnel use numerous types of equipment to perform the tasks required to administer or instruct therapy, treatments, or modalities to patients. Approximately 80 different pieces of apparatus were listed in the job inventory. Even with this diversity of equipment, there was some equipment that was common to 70 percent or more of the specialty (see Table 15). Various types of equipment used by Physical Therapists include Hydrotherapy, Exercise, Measurement, Ambulation, Diathermy, Stimulation, Ultrasound, Ultraviolet, Infrared, Traction, or Compression equipment. Hydrotherapy equipment is the most commonly used type of equipment, especially Hydrocollator Moist Heat Units and Leg Whirlpools. Table 16 shows the DAFSC distribution for uses of equipment listed in the job inventory. Overall, this table indicates 91330 DAFSC personnel use more equipment than any other DAFSC groups.

The various background information, specialty progression, and specialty structure all culminate to describe the inner workings of the Physical Therapy specialty. Educating personnel just entering the specialty to perform competently in the working environment is the objective of training programs. The requirements needed to provide adequate training may be illustrated in the characteristics and skills actually performed by personnel already in the specialty.

TABLE 13

## JOB SATISFACTION INFORMATION FOR AFMS GROUPS

EXPRESSED JOB INTEREST:	FIRST JOB (1-24 MONTHS)		FIRST ENLST. (1-48 MONTHS)		SECOND ENLST. (49-96 MONTHS)		CAREER (97+ MONTHS)	
	*COMP 913X0	SAMPLE	*COMP 913X0	SAMPLE	*COMP 913X0	SAMPLE	*COMP 913X0	SAMPLE
DULL	0	5	4	7	4	6	1	9
SO-SO	0	9	6	11	15	12	5	8
INTERESTING	100	84	90	80	81	80	94	80
PERCEIVED UTILIZATION OF TALENTS:								
NOT AT ALL OR VERY LITTLE	0	15	13	17	11	17	6	15
FAIRLY WELL TO VERY WELL	87	70	74	69	70	66	64	67
EXCELLENTLY OR PERFECTLY	13	14	13	13	19	16	30	22
PERCEIVED UTILIZATION OF TRAINING:								
NOT AT ALL OR VERY LITTLE	0	7	9	13	9	15	9	15
FAIRLY WELL TO VERY WELL	87	71	67	69	66	68	61	59
EXCELLENTLY OR PERFECTLY	13	21	24	17	25	17	30	24
REENLISTMENT INTENTIONS								
NO OR PROBABLY NOT	62	61	55	62	31	41	18	9
YES OR PROBABLY ENLIST	38	37	45	36	69	58	82	68

\* COMPARATIVE SAMPLE TAKEN FROM ALL MEDICAL SPECIALTIES SURVEYED IN 1978.

TABLE 14  
METHOD OF ASSIGNMENT TO 913X0 SPECIALTY

ASSIGNMENT	PERCENT MEMBERS RESPONDING
COMPLETED RESIDENT TECHNICAL TRAINING	38
RECLASSIFIED WITHOUT COMPLETING TECHNICAL TRAINING OR OJT	1
DIRECTED DUTY ASSIGNMENT (DDA) FROM BASIC TRAINING TO OJT WITHOUT BYPASS TEST	5
DDA FROM BASIC TRAINING BY BYPASS TEST	8
CONVERTED FROM ANOTHER AF SPECIALTY WITHOUT TRAINING BY CLASSIFICATION BOARD ACTION	1
RETRAINED FROM ANOTHER SPECIALTY	38
REENLISTED AFTER PRIOR SERVICE IN USAF OR FROM ANOTHER BRANCH OF SERVICE	6
NOT ASSIGNED TO MY CAREER LADDER BY ANY OF THE ABOVE METHODS	3



TABLE 15

## COMMON EQUIPMENT USED BY DAFSC 913X0 PERSONNEL

	PERCENT MEMBERS USING
<u>HYDROTHERAPY EQUIPMENT</u>	
HYDROCOLLATOR MOIST HEAT UNITS	96
LEG WHIRLPOOLS	95
ARM WHIRLPOOLS	91
PARAFFIN BATHS	86
<u>EXERCISE EQUIPMENT</u>	
IRON DUMBELLS	88
SAND OR SHOT BAG WEIGHTS	87
ANKLE AND LEG EXERCISERS	86
N-K EXERCISE UNITS	84
STANDARD BICYCLE	73
SLOTTED WEIGHTS	71
<u>MEASUREMENT EQUIPMENT</u>	
GONIOMETERS	93
TAPE MEASURES	89
<u>AMBULATION AND TRANSFER EQUIPMENT</u>	
AUXILLARY CRUTCHES	92
STANDARD CANES	89
WALKERS	76
POSTURE TRAINING MIRRORS	72
WHEELCHAIRS	71
<u>MISCELLANEOUS EQUIPMENT</u>	
WOODEN TREATMENT TABLES	94
<u>STIMULATION EQUIPMENT</u>	
A/C ELECTRICAL STIMULATION	70

TABLE 16

EQUIPMENT USED BY DAFSC 913X0 PERSONNEL  
(PERCENT MEMBERS USING)

	DAFSC 913X0 (N=194)	DAFSC 91330 (N=7)	DAFSC 91350 (N=105)	DAFSC 91370 (N=78)
<u>DIATHERMY EQUIPMENT</u>				
AUTOMATIC TUNING SHORTWAVE DIATHERMY	52	71	58	42
MANUAL TUNING SHORTWAVE DIATHERMY	45	43	44	49
MICROWAVE DIATHERMY	22	29	27	14
<u>STIMULATION EQUIPMENT</u>				
A/C ELECTRICAL STIMULATION	70	86	68	74
A/C D/C ELECTRICAL STIMULATION	53	57	54	51
D/C ELECTRICAL STIMULATION	26	29	32	18
<u>ULTRASOUND EQUIPMENT</u>				
CONSOLE ULTRASOUND/ELECTRICAL STIMULATION	67	71	71	63
BURDICK ULTRASOUND MACHINES	61	57	62	62
BIRTCHEER ULTRASOUND MACHINES	41	29	42	42
PIGGYBACK ULTRASOUND/ELECTRICAL STIMULATION	21	29	21	22
SONICATOR II ULTRASOUND MACHINES	33	0	31	39
<u>ULTRAVIOLET/INFRARED EQUIPMENT</u>				
COLD QUARTZ ULTRAVIOLET LAMPS	34	43	37	30
HOT QUARTZ ULTRAVIOLET LAMPS	45	29	43	50
LUMINOUS INFRARED EQUIPMENT	26	29	30	23
SPOT QUARTZ ULTRAVIOLET LAMPS	10	14	10	9
NON-LUMINOUS INFRARED EQUIPMENT	8	14	8	9
<u>TRACTION EQUIPMENT</u>				
TRACTION THERAPY TABLES	57	71	64	47
TRU-TRAC TRACTION UNIT	54	43	55	54
HAUSTED TRACTION AIDS	52	43	49	58
<u>HYDROTHERAPY EQUIPMENT</u>				
HYDROCOLLATOR MOIST HEAT UNITS	96	100	97	97
LEG WHIRLPOOLS	95	100	96	96
ARM WHIRLPOOLS	91	100	93	90
PARAFFIN BATHS	86	100	87	86
CONTRAST BATHS	50	71	48	54
COLD PACK UNITS	68	57	74	64
LOW BOY WHIRLPOOLS	48	57	54	40
WHIRLPOOL CLEANING DISINFECTANT UNITS	43	57	51	32
FULL BODY WHIRLPOOLS (HUBBARD)	25	57	28	19
THERAPUTIC POOLS	9	0	11	8
<u>MEASUREMENT EQUIPMENT</u>				
GONIOMETERS	93	100	93	95
TAPE MEASURES	89	86	91	90
HAND DYNAMOMETERS	42	71	35	50
PINCH GAUGES	18	29	18	17
FLEXOMETERS	6	0	9	3
BACK-LEG-CHEST DYNAMOMETERS	4	0	4	4
CERVIGONS	1	0	2	2

TABLE 16 (CONTINUED)

EQUIPMENT USED BY DAFSC 913X0 PERSONNEL  
(PERCENT MEMBERS USING)

EXERCISE EQUIPMENT	DAFSC 913X0 (N=194)	DAFSC 91330 (N=7)	DAFSC 91350 (N=105)	DAFSC 91370 (N=78)
IRON DUMBELLS	88	100	88	91
SHOULDER (FINGER) LADDERS	64	100	63	65
SAND/SHOT BAG WEIGHTS	87	86	89	87
ANKLE/LEG EXERCISERS	86	86	89	86
N-K EXERCISE UNITS	84	86	87	83
STANDARD BICYCLE EXERCISERS	73	86	79	65
PARALLEL BARS	68	86	69	67
EXERCISE MATS	63	86	62	65
OVERHEAD PULLEYS	60	86	60	60
SLOTTED WEIGHTS	71	71	72	71
WALL MOUNTED PULLEY WEIGHTS	52	71	54	47
SHOULDER WHEELS	47	71	48	45
POWDER BOARDS	31	43	27	37
MAT PLATFORMS	25	43	27	22
TREADMILLS	11	43	11	9
EXERCISE STAIRCASES	44	29	46	45
AXIAL RESISTENCE EXERCISERS	31	29	34	28
ISOQUADRON UNITS	9	14	11	10
ISOKINETIC EXERCISE UNITS	21	14	25	17
EXERCISE SKATES	26	14	22	32
WRIST ROLLS	21	14	20	24
ELGIN EXERCISE TABLES	20	0	25	15
STALL BARS	18	0	15	24
ROTARY WRIST MACHINES	18	0	15	23
RESTORATORS	10	0	10	13
MOTORIZED BICYCLE EXERCISERS	5	0	7	3
SLING SUSPENSION APPARATUS	10	14	11	10
<u>AMBULATION AND TRANSFER EQUIPMENT</u>				
AUXILIARY CRUTCHES	92	100	93	94
STANDARD CANES	89	100	88	94
WALKERS	76	100	78	73
WHEELCHAIRS	71	71	71	74
FOREARM CRUTCHES	59	71	60	58
MULTIPOINTED CANES	53	57	54	53
PATIENT LIFTS	20	57	20	15
ELECTRIC TILT TABLES	40	43	49	30
MANUAL TILT TABLES	28	43	24	32
TRANSFER BOARDS	14	14	16	12
SUSPENSION AMBULATORS	3	0	6	100
<u>COMPRESSION EQUIPMENT</u>				
CHEST PERCUSSORS	24	29	27	19
INTERMITTENT COMPRESSION UNITS	25	14	27	26
<u>MISCELLANEOUS EQUIPMENT</u>				
WOODEN TREATMENT TABLES	94	100	97	92

## ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

The specialty descriptions in AFR 39-1, dated 1 June 1977, were compared to the survey data. AFR 39-1 descriptions are intended to give a broad overview of the major duties and tasks performed at each skill level in a specialty. The 91330/50/70/92 specialty descriptions show a definite progression of skill as described in the skill level analysis section of this report. However, some additions to the present 5- and 7-skill level descriptions could further clarify the duties and responsibilities of the 913X0 specialty.

For example, paragraph 2a of the 91330/50 specialty description could be modified as follows: Administers or instructs patients in therapeutic exercises or procedures, administers physical therapy treatments using modalities which include electricity, ultrasound, heat, cold, water, light, massage, traction, and percussion, and uses physical therapy apparatus as directed by the physical therapist, physician or dentist. Assists the physical therapist, physician, or dentist with complex physical therapy evaluations, tests, measurements, and treatment procedures. Prepares equipment or patients for treatment.

Additionally, paragraph 2a of the 91370 specialty description could be modified as follows: Administers or instructs patients in therapeutic exercises or procedures, and administers therapeutic treatments using modalities as directed by the physical therapist, physician, or dentist. Assists the physical therapist, physician, or dentist with complex physical therapy evaluations, tests, measurements, and treatment procedures.

The clear outline of job responsibilities and skill-level progression summarized for this specialty provides a basis to evaluate trends in various background factors to give a more detailed description of the specialty respondents.



## TRAINING ANALYSIS

Occupational survey data is just one of many sources of information which can be used to help make training programs more meaningful and relevant to students. Factors provided in occupational surveys which may be used in evaluating training are percent of first enlistment members performing task(s), utilization of equipment available at the technical school for training, task difficulty ratings, and training emphasis ratings. These factors were used in evaluating the Specialty Training Standard (STS) and Plan of Instruction (POI) for the 913X0 specialty. Technical school personnel at the School of Health Care Sciences (SHCS), Sheppard AFB, Texas, matched inventory tasks to areas of instruction outlined in the STS, dated October 1978, and the POI for course 3ABR91330, dated December 1978 for the Physical Therapy specialty. A complete computer listing of the percent members performing, task difficulty and training emphasis ratings for each task statement along with the STS and POI matching has been forwarded to the technical school for their use in reviewing training documents. A summary of that information is described in the following section.

### Analysis of Training Emphasis and Task Difficulty

Tasks rated highest in training emphasis are listed in Table 17. These tasks are all performed by over 80 percent of the first term respondents, and relate primarily to instructing patients in various exercises, especially progressive resistive or lower extremity areas. Representative tasks rated average in training emphasis are shown on Table 18. Those tasks rated lowest in training emphasis center around supervisory and administrative functions and are not performed by many first term personnel (see Table 19).

The tasks rated most difficult to perform focused on training and various physical therapy procedures involving amputees (see Table 20). These tasks on a whole are not performed by many people in the specialty, indicating they are very specialized tasks. Those tasks rated high in difficulty and performed by at least 40 percent of the 913X0 respondents (see Table 21) relate to supervisory and management functions, as well as technical functions regarding post-operative programs. Tables 22 and 23 illustrate tasks which were rated average and below average in difficulty, respectively.

In using this data, training managers should consider the training emphasis and task difficulty ratings as additional guidelines to assist them in determining what should be covered in their specific course of instruction. Tasks which are more difficulty to learn require more training time than tasks which are rated as less difficult. Those tasks with higher training emphasis ratings should probably be considered for initial ABR training, unless other factors (i.e., low percent members performing, low task difficulty, or course/field resources) indicated a rationale for alternate training such as formal OJT, FTD, or MTT.

Tasks with average training emphasis ratings (3.7) should also be reviewed in consideration with these other factors to determine the most suitable method of training for the specific task. Tasks below 2.0 on the training emphasis scale normally should not be trained in formal ABR courses; however, again, careful consideration should be given to other factors that may indicate that ABR training is appropriate.

TABLE 17

TASKS RATED HIGHEST IN EMPHASIS FOR TRAINING FIRST TERM  
913X0 PERSONNEL

TASK	TRAINING EMPHASIS RATING	FIRST TERM PERCENT MEMBERS PERFORMING
J336 ADMINISTER OR INSTRUCT PATIENTS IN PROGRESSIVE RESISTIVE EXERCISES (PRE)	6.8	83
I244 ADMINISTER CONTRAST PACKS	6.7	83
K420 MEASURE OR ADJUST LENGTH OF CRUTCHES	6.6	96
H184 POSITION PATIENTS FOR TREATMENTS	6.6	96
K407 INSTRUCT PATIENTS IN STAIR CLIMBING WITH CRUTCHES	6.6	94
H181 EXPLAIN TREATMENT PROCEDURES TO PATIENTS	6.6	100
J349 INSTRUCT PATIENTS IN ACTIVE EXERCISE TO SHOULDERS	6.5	94
J353 INSTRUCT PATIENTS IN BACK (TRUNK) FLEXION EXERCISES	6.5	89
I221 ADMINISTER CERVICAL TRACTION IN SUPINE POSITION	6.4	79
J347 INSTRUCT PATIENTS IN ACTIVE EXERCISE TO KNEES	6.4	98
K404 INSTRUCT PATIENTS IN NON-WEIGHT-BEARING CRUTCH GAITS	6.4	94
J360 INSTRUCT PATIENTS IN HOME PROGRAM OF PROGRESSIVE RESISTIVE EXERCISES (PRE)	6.4	83
J361 INSTRUCT PATIENTS IN ISOMETRIC KNEE EXERCISES	6.4	83
G167 MEASURE JOINT RANGE OF MOTION USING GONIOMETERS, FLEXOMETERS, OR CERVIGONS	6.3	96
I218 ADMINISTER ARM OR LEG WHIRLPOOL TREATMENTS	6.3	96

TABLE 18

REPRESENTATIVE TASKS WITH AVERAGE RATINGS OF TRAINING EMPHASIS  
FOR FIRST TERM 913X0 PERSONNEL

TASK	TRAINING EMPHASIS RATING	FIRST TERM PERCENT MEMBERS PERFORMING
J356 INSTRUCT PATIENTS IN COORDINATION EXERCISES FOR LOWER EXTREMITIES	4.1	51
J357 INSTRUCT PATIENTS IN COORDINATION EXERCISES FOR UPPER EXTREMITIES	4.1	51
K380 APPLY BRACES OR SPLINTS	4.0	49
E123 MAINTAIN LINEN SUPPLY LEVELS	4.0	68
E128 MAINTAIN STOCK LEVELS OF GENERAL SUPPLIES OR FORMS	4.0	51
L426 MAINTAIN MILITARY SANITATION CONDITIONS	3.8	47
H197 PREPARE EQUIPMENT FOR JOBST COMPRESSION UNIT TREATMENTS	3.8	43
G179 TEST PATIENTS FOR PROPER BODY MECHANICS	3.8	51
J338 COMPOSE HANDOUTS FOR HOME TREATMENT PROGRAMS	3.7	55
F158 PLAN OR DEVELOP PHYSICAL THERAPY TREATMENT PROGRAMS	3.6	51



TABLE 19

TASKS RATED LOWEST IN EMPHASIS FOR TRAINING FIRST TERM  
913X0 PERSONNEL

TASK	TRAINING EMPHASIS RATING	FIRST TERM PERCENT MEMBERS PERFORMING
B55 SUPERVISE PHYSICAL MEDICINE SUPERINTENDENTS (AFSC 91392)	.20	2
B57 SUPERVISE PHYSICAL THERAPY TECHNICIANS (AFSC 91370)	.20	2
D95 CONDUCT TECHNICAL SCHOOL RESIDENT COURSE CLASSROOM TRAINING	.20	0
B54 SUPERVISE PHYSICAL MEDICINE MANAGERS (CEM CODE 91300)	.18	2
B52 SUPERVISE OCCUPATIONAL THERAPY PERSONNEL (AFS 913X1)	.16	6
B53 SUPERVISE ORTHOTIC PERSONNEL (AFS 913X2)	.16	2
C64 EVALUATE BUDGETING OR FINANCIAL REQUIREMENTS	.16	9
C82 WRITE CIVILIAN PERFORMANCE RATINGS OR SUPERVISORY APPRAISALS	.11	6
D89 ASSIGN RESIDENT COURSE INSTRUCTORS	.07	0
C83 WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	.00	11

TABLE 20

REPRESENTATIVE TASKS RATED ABOVE AVERAGE IN DIFFICULTY  
(AFSC 913X0)

TASK		TASK DIFFICULTY INDEX	PERCENT MEMBERS PERFORMING
D106	DIRECT RESIDENT TECHNICAL COURSES	7.6	3
A10	DRAFT BUDGET ESTIMATES OR FINANCIAL REQUIREMENTS	7.5	37
D95	CONDUCT TECHNICAL SCHOOL RESIDENT COURSE CLASSROOM TRAINING	7.5	3
C83	WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	7.5	17
D104	DEVELOP COURSE CURRICULA, PLANS OF INSTRUCTION (POI), OR SPECIALTY TRAINING STANDARDS (STS)	7.5	12
K387	INSTRUCT HIP DISARTICULATION AMPUTEES IN AMBULATION USING PROSTHESIS	7.3	12
F149	DESIGN EQUIPMENT FOR SPECIALIZED TREATMENTS	7.3	25
J324	ADMINISTER OR INSTRUCT PATIENTS IN POST-OPERATIVE NEUROSURGERY PROGRAMS	7.3	30
D98	CONSTRUCT TEST OR EXAMINATION ITEMS	7.2	19
K383	APPLY RIGID DRESSINGS TO LOWER EXTREMITY AMPUTATIONS IMMEDIATELY POST-OPERATIVE	7.2	11
K384	INSTRUCT ABOVE KNEE AMPUTEES IN AMBULATION USING PROSTHESIS	7.2	26
A4	COMPOSE LOCAL PHYSICAL THERAPY CLINIC POLICIES OR REGULATIONS	7.2	44
J246	ADMINISTER CARDIAC REHABILITATION PROGRAMS	7.1	29
J326	ADMINISTER OR INSTRUCT PATIENTS IN POST-OPERATIVE RADICAL NECK PROGRAMS	7.1	22
K381	APPLY PLASTER CAST PYLONS	7.0	11

TABLE 21

THE MOST DIFFICULT TASKS PERFORMED BY OVER 40 PERCENT  
OR MORE OF THE SURVEY RESPONDENTS

TASK	TASK DIFFICULTY INDEX	PERCENT MEMBERS PERFORMING
A6 DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	6.7	57
L421 ADMINISTER OR PRACTICE CARDIO-PULMONARY RESUSCITATION (CPR)	6.7	56
A11 ESTABLISH OR IMPROVE WORK METHODS OR PROCEDURES	6.7	67
F152 DETERMINE PATIENTS' CONDITION PRIOR TO TREATMENT	6.6	74
D91 CONDUCT IN-SERVICE TRAINING	6.6	44
A16 PLAN OR ESTABLISH ADMINISTRATIVE METHODS AND PROCEDURES	6.5	47
F158 PLAN OR DEVELOP PHYSICAL THERAPY TREATMENT PROGRAMS	6.4	64
J321 ADMINISTER OR INSTRUCT PATIENTS IN POST-OPERATIVE ARTHROPLASTY PROGRAMS	6.4	47
J325 ADMINISTER OR INSTRUCT PATIENTS IN POST-OPERATIVE ORTHOPAEDIC SURGERY PROGRAMS	6.4	77
J323 ADMINISTER OR INSTRUCT PATIENTS IN POST-OPERATIVE MASTECTOMY PROGRAMS	6.4	49
B32 COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	6.2	40
F150 DETERMINE PATIENTS' CONDITION AT TERMINATION OF TREATMENT PROGRAM	6.2	86

TABLE 22

REPRESENTATIVE TASKS RATED AVERAGE IN DIFFICULTY  
(AFSC 913X0)

TASK	TASK DIFFICULTY INDEX	PERCENT MEMBERS PERFORMING
K407 INSTRUCT PATIENTS IN STAIR CLIMBING WITH CRUTCHES	5.1	88
A7 DETERMINE SCHEDULING PRIORITIES	5.1	75
J336 ADMINISTER OR INSTRUCT PATIENTS IN PROGRESSIVE RESISTIVE EXERCISES (PRE)	5.1	87
J320 ADMINISTER OR INSTRUCT PATIENTS IN PASSIVE STRETCHING OF WRISTS	5.1	68
J292 ADMINISTER OR INSTRUCT PATIENTS IN MECHANICAL RESISTIVE EXERCISE TO HIPS	5.1	51
J293 ADMINISTER OR INSTRUCT PATIENTS IN MECHANICAL RESISTIVE EXERCISE TO KNEES	5.1	78
J274 ADMINISTER OR INSTRUCT PATIENTS IN MANUAL RESISTIVE EXERCISE TO SHOULDERS	5.1	83
J310 ADMINISTER OR INSTRUCT PATIENTS IN PASSIVE STRETCHING OF ANKLES	5.0	75
I245 APPLY DRESSINGS TO PATIENTS' WOUNDS	5.0	86
K411 INSTRUCT PATIENTS IN TWO-POINT ALTERNATE CRUTCH GAITS	5.0	72
K394 INSTRUCT PATIENTS IN CASTS IN AMBULATION	5.0	77
J313 ADMINISTER OR INSTRUCT PATIENTS IN PASSIVE STRETCHING OF FOREARMS	5.0	62
F161 RECORD PATIENT TREATMENT HISTORY ON CLINICAL RECORD-CONSULTATION SHEET FORMS (SF 513)	5.0	77
J306 ADMINISTER OR INSTRUCT PATIENTS IN PASSIVE RANGE OF MOTION TO NECKS	5.0	64
J307 ADMINISTER OR INSTRUCT PATIENTS IN PASSIVE RANGE OF MOTION TO SHOULDERS	5.0	83



TABLE 23

REPRESENTATIVE TASKS RATED BELOW AVERAGE IN DIFFICULTY  
(AFSC 913X0)

TASK	TASK DIFFICULTY INDEX	PERCENT MEMBERS PERFORMING
M440 OPERATE VIDEO OR VISUAL AID EQUIPMENT	3.2	17
E131 PREPARE OUTDATED RECORDS FOR DESTRUCTION	3.2	39
H201 PREPARE EQUIPMENT FOR MOIST HEAT TREATMENTS	3.2	89
H216 TRANSPORT EQUIPMENT TO WARDS	3.1	31
M438 CLEAN WORK AREA	3.1	88
E118 DESTROY OUTDATED RECORDS OR REPORTS	3.1	69
F153 FILE CLINICAL RECORD-JOINT MOTION MEASUREMENTS FORMS (SF 527A)	3.1	29
H217 TRANSPORT PATIENTS TO OR FROM PHYSICAL THERAPY CLINICS	3.1	41
B29 CONDUCT CLINIC TOURS	2.9	59
A3 ASSIGN SPONSORS FOR NEW PERSONNEL	2.7	26
H180 DRAPE PATIENTS FOR TREATMENTS	2.6	92
M442 PAINT FACILITIES	2.5	16
E139 RELAY MESSAGES OR PAGE DOCTORS	2.5	60
M441 PAINT EQUIPMENT	2.4	11
M439 CLEAN, WAX, OR BUFF FLOORS	1.9	9

### Analysis of First Enlistment Personnel

An analysis of jobs and tasks performed by personnel with 1-48 months TAFMS (first enlistment) was made to indicate the basic tasks a person just entering the 913X0 specialty performs. First term personnel in Physical Therapy indicated performing an average of 192 tasks which is only slightly below the average number of tasks (216) performed by all specialty incumbents. A listing of representative tasks is given in Table 24. All of these tasks were rated well above average in training emphasis, while slightly below the average in difficulty. These factors (in conjunction with the high percent members performing) also indicates this list is representative of tasks requiring some type of structured training for first term personnel. As can be seen on Table 25, the tasks listed cover a variety of functions within physical therapy indicating a diverse training requirement.

First enlistment personnel were identified in four different job groups in the specialty structure (see Table 25), the majority (51 percent) in the Hospital Journeymen job type. Approximately 50 percent of the tasks in the job inventory are performed by over 50 percent of the first enlistment respondents, further illustrating the extreme homogeneity of the specialty.

TABLE 24

REPRESENTATIVE TASKS PERFORMED BY DAFSC 913X0 PERSONNEL IN THEIR  
FIRST ENLISTMENT (1-48 MOS.)

TASK	T.E.*	T.D.**	PERCENT MEMBERS PERFORMING
H181 EXPLAIN TREATMENT PROCEDURES TO PATIENTS	6.6	3.4	100%
H191 PREPARE EQUIPMENT FOR ARM OR LEG WHIRLPOOL TREATMENTS	5.8	3.4	98
I218 ADMINISTER ARM OR LEG WHIRLPOOL TREATMENTS	6.3	3.5	98
J347 INSTRUCT PATIENTS IN ACTIVE EXERCISE TO KNEES	6.4	4.6	98
K420 MEASURE OR ADJUST LENGTH OF CRUTCHES	6.6	4.0	96
F155 INFORM PHYSICAL THERAPIST REGARDING PATIENTS' PROGRESS	5.6	3.9	96
H184 POSITION PATIENTS FOR TREATMENTS	6.6	3.4	96
K404 INSTRUCT PATIENTS IN NON-WEIGHT-BEARING CRUTCH GAITS	6.4	4.6	96
H180 DRAPE PATIENTS FOR TREATMENTS	5.7	2.6	96
H204 PREPARE EQUIPMENT FOR THERAPEUTIC EXERCISES	6.3	3.8	96
I234 ADMINISTER MOIST HEAT TREATMENTS	6.2	3.4	91
M438 CLEAN WORK AREA	3.8	3.1	91
J361 INSTRUCT PATIENTS IN ISOMETRIC KNEE EXERCISES	6.4	4.5	91
H201 PREPARE EQUIPMENT FOR MOIST HEAT TREATMENTS	5.7	3.2	89
E142 TRANSFER NOTES FROM AF FORMS 1412 TO SFs 513	5.3	3.6	79

\* AVERAGE T.E. RATING = 3.7

\*\* AVERAGE T.D. RATING = 5.0

TABLE 25

## DISTRIBUTION OF AFMS GROUP MEMBERS PERFORMING SPECIALTY JOBS

<u>JOB GROUP</u>	<u>FIRST ENLST. 1-48 MONTHS (N=47)</u>	<u>SECOND ENLST. 49-96 MONTHS (N=53)</u>	<u>CAREER 97+ MONTHS (N=94)</u>
<u>SUPERINTENDENTS (GRP002)</u>	0%	3%	8%
<u>CLINIC NCOICs (GRP020)</u>	0%	0%	9%
<u>JOURNEYMEN (GRP025)</u>			
HOSPITAL SUPERVISORS (GRP067)	0%	8%	44%
HOSPITAL JOURNEYMEN (GRP070)	51%	47%	17%
CLINIC JOURNEYMEN (GRP030)	28%	27%	19%
<u>TRAINEES (GRP017)</u>	11%	4%	1%
<u>ATHLETIC TRAINERS (GRP014)</u>	10%	11%	2%
	100%	100%	100%



### Specialty Training Standard

A comprehensive review of STS 913X0, dated October 1978, was made comparing STS items to survey data. STS paragraphs containing general information (paragraph 1) or having only subject matter knowledge (paragraphs 9-12) were not evaluated. All major inventory tasks performed by specialty incumbents are adequately reflected on the STS.

However, the annotation of Therapeutic Exercises seems to be very lengthy and appears in two different items within the same paragraph 14 d1 (c) & (d). The "instructing" and/or "administering" of therapeutic exercises could possibly be combined and then itemized by type of exercise, such as "manual assistive/resistive" and "mechanical assistive/resistive" and so forth. The different types of exercises are performed by differing percentages of specialty incumbents indicating some degree of specialization, and this type of annotation would also provide a more specific guideline for training.

Table 26 illustrates tasks performed by over 50 percent of the specialty respondents which were not referenced to the STS. Those tasks not referenced related to determining a patient's condition, supply functions, and administrative tasks which may warrant inclusion in the STS. Large percentages of the 913X0 incumbents perform these tasks and they are average or above average in training emphasis and task difficulty. Overall, the STS matching is very complete and provides an excellent tool for evaluating training requirements.

TABLE 26

## INVENTORY TASKS NOT REFERENCED TO THE 913X0 STS

TASK	PERCENT MEMBERS PERFORMING	T.E.*	T.D.**
F151 DETERMINE PATIENTS' CONDITION DURING TREATMENT PROGRAM	89%	4.7	6.0
F150 DETERMINE PATIENTS' CONDITION AT TERMINATION OF TREATMENT PROGRAM			
E142 TRANSFER NOTES FROM AF FORMS 1412 TO SFs 513	86%	4.6	6.2
F152 DETERMINE PATIENTS' CONDITION PRIOR TO TREATMENT	84%	5.3	3.6
E128 MAINTAIN STOCK LEVELS OF GENERAL SUPPLIES OR FORMS	74%	4.4	6.6
E143 TYPE FORMS OR CORRESPONDENCE	69%	4.0	4.0
	67%	3.8	5.0
E139 RELAY MESSAGES OR PAGE DOCTORS	60%	2.0	2.5
B29 CONDUCT CLINIC TOURS	59%	1.9	2.9
A5 COORDINATE PHYSICAL THERAPY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	53%	2.3	6.0

\* AVERAGE T.E. RATING = 3.6

\*\* AVERAGE T.D. RATING = 5.0

### Plan of Instruction

The 3ABR91330 course consists of eight weeks and two days of training which are designed to give the student theory and practical application of physical therapy procedures and modalities needed to assist the physical therapist in administering physical therapy care. POI units in Blocks I and II dealing with knowledge items did not have any tasks matchings, and therefore were not evaluated. The "knowledge" related units account for approximately 83 course hours or 28 percent of the academic hours in the course. All of these "knowledge" units are listed in the STS, except for the unit on the Cell (9.5 hrs). With 28 percent of the academic training time spent on "Knowledge", training personnel may want to review the cost-effectiveness and importance of the amount of time spent in these "knowledge" units, versus using some of these hours in practical application of additional physical therapy care, such as those not referenced to the POI but performed by first enlistment personnel.

The remaining POI blocks reflect tasks performed by a substantial percentage of specialty incumbents. Some tasks relating to the determining of a patient's condition, not previously referenced in the STS, are referenced in the POI. Only 26 tasks performed by over 30 percent of first enlistment personnel with average or above average training emphasis ratings are not referenced to some unit in the POI (see Table 27).

TABLE 27

## INVENTORY TASKS NOT REFERENCED TO THE 913X0 POI

TASK	PERCENT MEMBERS PERFORMING	T.E.*	T.D.**
E123 MAINTAIN LINEN SUPPLY LEVELS	68	4.0	3.3
E128 MAINTAIN STOCK LEVELS OF GENERAL SUPPLIES OR FORM	51	4.0	4.0
E143 TYPE FORMS OR CORRESPONDENCE	49	3.8	5.0
G173 PERFORM ACTIVITIES OF DAILY LIVING (ADL) TESTS	34	3.8	5.7
H197 PREPARE EQUIPMENT FOR JOBST COMPRESSION UNIT TREATMENTS	43	3.8	4.3
H205 PREPARE EQUIPMENT FOR TILT TABLE TREATMENTS	70	4.8	3.6
I223 ADMINISTER CONTRAST BATHS	38	4.9	4.1
I230 ADMINISTER JOBST COMPRESSION UNIT TREATMENTS	40	4.4	4.7
I231 ADMINISTER LOW BOY WHIRLPOOL TREATMENTS	60	4.5	3.7
I239 ADMINISTER TILT TABLE TREATMENTS	66	5.7	4.0
I245 APPLY DRESSINGS TO PATIENTS' WOUNDS	89	6.3	5.0
J247 ADMINISTER EXERCISES FOR LOWER EXTREMITY AMPUTATIONS	53	4.5	6.2
J294 ADMINISTER OR INSTRUCT PATIENTS IN MECHANICAL RESISTIVE EXERCISES TO NECK	36	4.6	4.9
J311 ADMINISTER OR INSTRUCT PATIENTS IN PASSIVE STRETCHING OF ELBOWS	72	5.3	5.4
J337 ADMINISTER PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION (PNF) EXERCISES	34	3.9	6.8
J369 INSTRUCT PATIENTS IN THERAPEUTIC EXERCISES USING NONPOWERED BICYCLES	79	4.1	4.0
J372 INSTRUCT PATIENTS IN USE OF SHOULDER WHEELS	47	4.2	3.8
K380 APPLY BRACES OR SPLINTS	49	4.0	5.9
K384 INSTRUCT ABOVE KNEE AMPUTEES IN AMBULATION USING PROSTHESIS	34	3.7	7.2
K385 INSTRUCT AMPUTEES IN STUMP CARE	36	3.9	6.6
K391 INSTRUCT PATIENTS IN ACTIVITIES OF DAILY LIVING (ADL)	55	5.1	5.6
K415 INSTRUCT PATIENTS IN USE OF PLATFORM CRUTCHES	49	4.6	5.0
K419 MEASURE OR ADJUST LENGTH OF CANES	92	5.9	3.8
K420 MEASURE OR ADJUST LENGTH OF CRUTCHES	96	6.6	4.0
L421 ADMINISTER OR PRACTICE CARDIO-PULMONARY RESUSCITATION (CPR)	49	6.1	6.7
L426 MAINTAIN MILITARY SANITATION CONDITIONS	47	3.8	4.6

\* AVERAGE T.E. RATING = 3.7

\*\* AVERAGE T.D. RATING = 5.0



### Analysis of Equipment Used at the Basic Technical School

As illustrated in the Analysis of Equipment (see SUMMARY OF BACKGROUND INFORMATION section), Physical Therapy personnel use many different pieces of equipment. This diversity of equipment poses a potential training problem of what equipment should be used for initial training. Table 28 lists equipment annotated by technical school personnel as available for training at the School of Health Care Sciences. Most pieces of equipment in Table 28 are utilized by over 30 percent of the various specialty DAFSCs. Of special interest are equipment items taught in the basic course, but utilized by less than 30 percent of the specialty respondents, particularly those in their first enlistment. Only two items, Spot Quartz Ultraviolet Lamps and Non-luminous Infrared Equipment are utilized by a very low percent of specialty respondents. These items are used only in conjunction with additional, more utilized equipment. Conversely, Table 29 lists equipment used by over 30 percent of the specialty incumbents or first enlistment personnel, but are not currently available for training at the basic technical school. In comparing Tables 28 and 29, the Diathermy and Ultrasound Equipment used at the technical school are utilized less out in the field than other Diathermy and Ultrasound equipment available in the field. Tasks dealing with the use of Tilt Tables (see Table 26) are performed by over 65 percent of first enlistment personnel and have average or above average training emphasis ratings, but Tilt Tables are not available at the technical school for instruction.

TABLE 28  
EQUIPMENT USED AT THE TECHNICAL SCHOOL

	PERCENT FIRST TERM MEMBERS PERFORMING	TOTAL SAMPLE PERCENT MEMBERS PERFORMING
<u>DIATHERMY EQUIPMENT</u>		
MANUAL TUNING SHORTWAVE DIATHERMY	47	49
<u>STIMULATION EQUIPMENT</u>		
A/C ELECTRICAL STIMULATION EQUIPMENT	64	70
<u>ULTRASOUND EQUIPMENT</u>		
BURDICK ULTRASOUND MACHINES	60	61
SONICATOR II ULTRASOUND MACHINES	32	33
<u>ULTRAVIOLET/INFRARED EQUIPMENT</u>		
COLD QUARTZ ULTRAVIOLET LAMPS	38	34
HOT QUARTZ ULTRAVIOLET LAMPS	34	45
LUMINOUS INFRARED EQUIPMENT	32	26
SPOT QUARTZ ULTRAVIOLET LAMPS	9	10
NON-LUMINOUS INFRARED EQUIPMENT	6	8
<u>TRACTION EQUIPMENT</u>		
TRACTION THERAPY TABLES	70	57
TRU-TRAC TRACTION UNITS	53	54
HAUSTED TRACTION AIDS	40	52
<u>MEASUREMENT EQUIPMENT</u>		
GONIOMETERS	94	93
TAPE MEASURES	92	89
<u>HYDROTHERAPY EQUIPMENT</u>		
LEG WHIRLPOOLS	100	95
HYDROCOLLATOR MOIST HEAT UNITS	98	96
ARM WHIRLPOOLS	94	91
PARAFFIN BATHS	94	86
<u>AMBULATION AND TRANSFER EQUIPMENT</u>		
AUXILIARY CRUTCHES	92	92
STANDARD CANES	89	89
WHEELCHAIRS	77	71
POSTURE TRAINING MIRRORS	75	72
MULTIPOINTED CANES	62	53
FOREARM CRUTCHES	60	59
TRANSFER BOARDS	21	14
<u>EXERCISE EQUIPMENT</u>		
IRON DUMBELLS	94	88
ANKLE AND LEG EXERCISERS	92	86
SAND OR SHOT BAG WEIGHTS	92	87
M-K EXERCISE UNITS	83	84
SLOTTED WEIGHTS	72	71
<u>MISCELLANEOUS EQUIPMENT</u>		
WOODEN TREATMENT TABLES (PLINTH)	94	94

TABLE 29  
EQUIPMENT NOT CURRENTLY AVAILABLE FOR USE  
BY THE TECHNICAL SCHOOL

	PERCENT FIRST TERM MEMBERS <u>PERFORMING</u>	TOTAL SAMPLE PERCENT MEMBERS <u>PERFORMING</u>
<u>DIATHERMY EQUIPMENT</u>		
AUTOMATIC TUNING SHORTWAVE DIATHERMY	66	52
<u>STIMULATION EQUIPMENT</u>		
AC/DC ELECTRICAL STIMULATION	53	53
<u>ULTRASOUND EQUIPMENT</u>		
CONSOLE ULTRASOUND-ELECTRICAL STIMULATION EQUIPMENT	72	67
<u>AMBULATION AND TRANSFER EQUIPMENT</u>		
WALKERS	83	76
ELECTRIC TILT TABLES	55	40
<u>HYDROTHERAPY EQUIPMENT</u>		
COLD PACK UNITS	68	68
WHIRLPOOL CLEANING DISINFECTION UNITS	60	43
<u>EXERCISE EQUIPMENT</u>		
STANDARD BICYCLE EXERCISERS	81	73
PARALLEL BARS	79	68
SHOULDER (FINGER) LADDERS	72	64
EXERCISE MATS	68	63
OVERHEAD PULLEYS	68	60
WALL MOUNTED PULLEY WEIGHTS	53	52
SHOULDER WEIGHTS	53	47

## DISCUSSION

The occupational survey of the Physical Therapy specialty indicates that personnel working within this AFSC are relatively homogeneous in that there is a large number of tasks which are common to a majority of the survey respondents. During the analysis process, no major problems associated with this specialty were encountered. There are distinct differences within skill level groups and specialty structure groups which are accurately reflected in the AFR 39-1 Specialty Description. The numerous types and pieces of equipment utilized throughout different physical therapy clinics or departments complicate the training for DAFSC 913X0 personnel. The training provided and outlined in the STS and POI is substantiated by task performance of specialty incumbents in the working environment and task difficulty or training emphasis ratings.

Overall, Physical Therapy specialty respondents have a higher feeling of job satisfaction than other medical AFSCs.